WHAT IS CLAIMED IS:

1. A ceramic catalyst body comprising a ceramic carrier capable of supporting a catalyst directly on the surface of a substrate ceramic and a catalyst component supported by the ceramic carrier, wherein the quantity of catalyst supported by a unit volume of the carrier at the middle portion thereof where the gas stream is maximum is set to 1.1 times that of the periphery or larger.

2. A ceramic catalyst body comprising a ceramic carrier capable of supporting a catalyst directly on the surface of a substrate ceramic, wherein the surface area per unit volume of carrier at the middle portion thereof where the gas stream velocity is highest is set to 1.1 times that of the periphery or larger.

3. The ceramic carrier according to claim 2, wherein the carrier is formed in a monolith, while the middle portion of the carrier is made to have a high cell density or in polygonal or circular cell form, and the peripheral portion of the carrier is made to have a low cell density or in rectangular, hexagonal or triangular cell form.

4. The ceramic catalyst body according to claim 1, wherein, with the projection area of a gas inlet onto the ceramic carrier denoted as S, the middle portion of the carrier is identified as a region which has a cross sectional area in a range from 1.1 to 2 times the projection area S.

5. A ceramic catalyst body comprising a ceramic carrier capable of supporting a catalyst directly on the surface of a substrate ceramic and a catalyst component supported by the ceramic carrier, wherein 50% by weight or more of the entire catalyst is concentrated in a region from the upstream end of the carrier to a point one quarter to one third of the entire length.

6. A ceramic catalyst body comprising a ceramic carrier capable of supporting a catalyst directly on the surface of a substrate ceramic and a catalyst component

supported by the ceramic carrier, wherein a catalyst having high heat resistance is disposed in the upstream of the incoming gas and a catalyst having low heat resistance is disposed in the downstream.

7. The ceramic carrier according to claim 6, wherein the catalyst having higher heat resistance is a catalyst of inlet temperature not higher than 300°C with a purification ratio of 50%, and the catalyst having lower heat resistance is a catalyst of inlet temperature not lower than 350°C with a purification ratio of 50%.

8. The ceramic catalyst body according to claim 1, wherein the cross sectional area of the ceramic carrier is larger than the cross sectional area of a gas inlet tube connected to the ceramic carrier.

9. A ceramic catalyst body comprising a ceramic carrier capable of supporting a catalyst directly on the surface of a substrate ceramic and a catalyst component supported by the ceramic carrier, wherein the catalyst comprises particles of a shape that has a larger surface area than spherical or semi-spherical particles of the same weight.

10. The ceramic catalyst body according to claim 9, wherein the shape of the catalyst particles is at least one of polyhedron, conical shape or cone missing a part thereof, substantially spherical shape having surface irregularities or projections, needles and hollow particles.

11. A ceramic catalyst body comprising a ceramic carrier capable of supporting a catalyst directly on the surface of a substrate ceramic and a catalyst component supported by the ceramic carrier, wherein the catalyst is oriented in a plane which has high catalyst activity.

12. The ceramic catalyst body according to claim 9, wherein the catalyst is supported in the pores by impregnating the ceramic carrier with a catalyst solution and sintering.

13. The ceramic catalyst body according to claim 1,

wherein one or more constituent elements of the ceramic substrate is substituted with an element other than the constituent element, and the ceramic carrier is capable of supporting the catalyst component directly on the substituting element.

14. The ceramic catalyst body according to claim 13, wherein the catalyst component is supported directly on the substituting element by chemical bond.

15. The ceramic catalyst body according to claim 13, wherein the substituting element is one or more elements having d or f orbit in the electron orbits thereof.

16. The ceramic catalyst body according to claim 1, wherein the ceramic catalyst has a multitude of pores which are capable of directly supporting the catalyst on the surface of the substrate ceramic so that the catalyst component can be supported directly in the pores.

17. The ceramic catalyst body according to claim 16, wherein the pores comprise at least one kind selected from among a group of defects in the ceramic crystal lattice, microscopic cracks in the ceramic surface and missing defect of the elements which constitute the ceramic.

18. The ceramic catalyst body according to claim 17, wherein the microscopic cracks are 100 nm or smaller in width.

19. The ceramic catalyst body according to claim 17, wherein the pores have diameter or width 1000 times the diameter of the catalyst ion to be supported or smaller, and the density of pores is 1×10^{11}/L or higher.

20. The ceramic catalyst body according to claim 17, wherein the substrate ceramic contains cordierite as the major component, and the pores are constituted from defects formed by substituting a part of the constituent elements of the cordierite with a metal element having a different value of valence.

21. The ceramic catalyst body according to claim 20, wherein the defects comprise at least one kind, oxygen defect or lattice defect, and the density of cordierite crystal which includes at least one defect in a unit crystal lattice of cordierite is set to 4×10^{-6} % or higher.